

What is claimed is:

1 1. A method of determining which entity in an Internet Protocol (IP) network
2 will establish Quality of Service (QoS), wherein the IP network is comprised of a user node,
3 comprising the steps of:

4 transmitting, by the IP network, a message indicating which of at least one of the user
5 node and the IP network is capable of establishing QoS; and
6 selecting, by the user node, one of the IP network and the user node to establish QoS, if
7 the IP network indicates that both the user node and the IP network are capable of
8 establishing QoS.

1 2. The method as recited in claim 1, wherein the user node is a mobile terminal.

1 3. The method as recited in claim 1, wherein the message transmitted by the IP
2 network is a broadcast message to any IP node which can receive it.

1 4. The method as recited in claim 3, wherein the message transmitted by the IP
2 network is a Mobile IPv4 Agent Announcement message, and wherein the Mobile IPv4 Agent
3 Announcement message contains at least one field to indicate which of at least one of the user
4 node and the IP network is capable of establishing QoS.

1 5. The method as recited in claim 3, wherein the message transmitted by the IP
2 network is a Router Advertisement message, and wherein the Router Advertisement message
3 contains at least one field to indicate which of at least one of the user node and the IP network is
4 capable of establishing QoS.

1 6. The method as recited in claim 5, wherein the Router Advertisement
2 message is one of an IPv4 Router Advertisement message and an IPv6 Router Advertisement
3 message.

1 7. The method as recited in claim 1, wherein the message transmitted by the IP
2 network is a message transmitted during a registration procedure of the user node.

1 8. The method as recited in claim 7, wherein the message transmitted during
2 the registration procedure of the user node is a Mobile IPv4 Registration Reply message, and
3 wherein the Mobile IP Registration Reply message contains at least one field to indicate which of at
4 least one of the user node and the IP network is capable of establishing QoS.

1 9. The method as recited in claim 7, wherein the message transmitted during
2 the registration procedure of the user node is a Mobile IPv6 Binding Acknowledgement message,
3 and wherein the Mobile IPv6 Binding Acknowledgement message contains at least one field to
4 indicate which of at least one of the user node and the IP network is capable of establishing QoS.

1 10. The method as recited in claim 7, wherein the message transmitted during
2 the registration procedure of the user node is a Session Initiation Protocol (SIP) OK message in
3 response to a SIP REGISTER message transmitted by the user node, and wherein the OK message
4 contains at least one field to indicate which of at least one of the user node and the IP network is
5 capable of establishing QoS.

1 11. The method as recited in claim 1, wherein the message transmitted by the IP
2 network is a message transmitted during a session setup procedure.

1 12. The method as recited in claim 1, wherein the step of selecting, by the user
2 node, one of the IP network and the user node to establish QoS, comprises:
3 transmitting, by the user node to the IP network, a message selecting one of the user node
4 and the IP network to establish QoS.

1 13. The method as recited in claim 12, wherein the message transmitted by the
2 user node is a message transmitted during a registration procedure of the user node.

1 14. The method as recited in claim 13, wherein the message transmitted during
2 the registration procedure of the user node is a Registration Request message, and wherein the
3 Registration Request message contains at least one field selecting one of the user node and the IP
4 network to establish QoS.

1 15. The method as recited in claim 14, wherein the Registration Request
2 message is one of a Mobile IPv4 Registration Request message, a Mobile IPv6 Binding Request
3 message, and a User Registration Protocol (URP) registration message.

1 16. The method as recited in claim 13, wherein the message transmitted during
2 the registration procedure of the user node is a Session Initiation Protocol (SIP) REGISTER
3 message, and wherein the REGISTER message contains at least one field to select one of the user
4 node and the IP network to establish QoS.

1 17. The method as recited in claim 12, wherein the message transmitted by the
2 user node is a message transmitted during a session setup procedure of the user node.

1 18. The method as recited in claim 17, wherein the message transmitted during
2 the session setup procedure of the user node is a Session Initiation Protocol (SIP) INVITE message,
3 and wherein the INVITE message contains at least one field to select one of the user node and the
4 IP network to establish QoS.

1 19. A system for determining which entity in an Internet Protocol (IP) network
2 will establish Quality of Service (QoS), comprising the steps of:
3 a user node; and
4 an IP network for transmitting a message indicating which of at least one of the user node
5 and the IP network is capable of establishing QoS;
6 wherein the user node is operable for selecting one of the IP network and the user node to
7 establish QoS, if the IP network indicates in the transmitted message that both the
8 user node and IP network are capable of establishing QoS.

1 20. The system as recited in claim 19, wherein the user node is a mobile
2 terminal.

1 21. The system as recited in claim 20, wherein the mobile terminal is one of a
2 cellular telephone, a Personal Digital Assistant (PDA), and a laptop computer.

1 22. The system as recited in claim 19, wherein the IP network is a wireless
2 broadcast network.

1 23. The system as recited in claim 19, wherein the IP network message is one of
2 a IP Router Advertisement message, Mobile IP Agent Announcement message, a User Registration
3 Protocol (URP) registration message, and a Mobile IP Registration Reply message, and wherein the
4 IP network message has at least one field which indicates which of at least one of the user node
5 and the IP network is capable of establishing QoS.

1 24. The system as recited in claim 19, wherein the IP network message is a
2 Session Initiation Protocol (SIP) OK message in response to a SIP REGISTER message transmitted
3 by the user node, and wherein the SIP OK message contains at least one field to indicate which of at
4 least one of the user node and the IP network is capable of establishing QoS.

1 25. The system as recited in claim 19, wherein the user node indicates the
2 selection by means of a selection message to the IP network.

1 26. The system as recited in claim 25, wherein the selection message is a
2 message transmitted during one of a registration procedure of the user node and a session setup
3 procedure of the user node.

1 27. The system as recited in claim 25, wherein the selection message is one of a
2 SIP REGISTER message and a SIP INVITE message, and wherein the selection message contains
3 at least one field for selecting one of the user node and the IP network.

- 1 28. The system as recited in claim 25, wherein the selection message is a Mobile
- 2 IPv4 Registration Request message, a Mobile IPv6 Binding Update message, a User Registration
- 3 Protocol (URP) registration message, and wherein the selection message contains at least one field
- 4 for selecting one of the user node and the IP network to establish QoS.